Synchronous IPC over Monitors

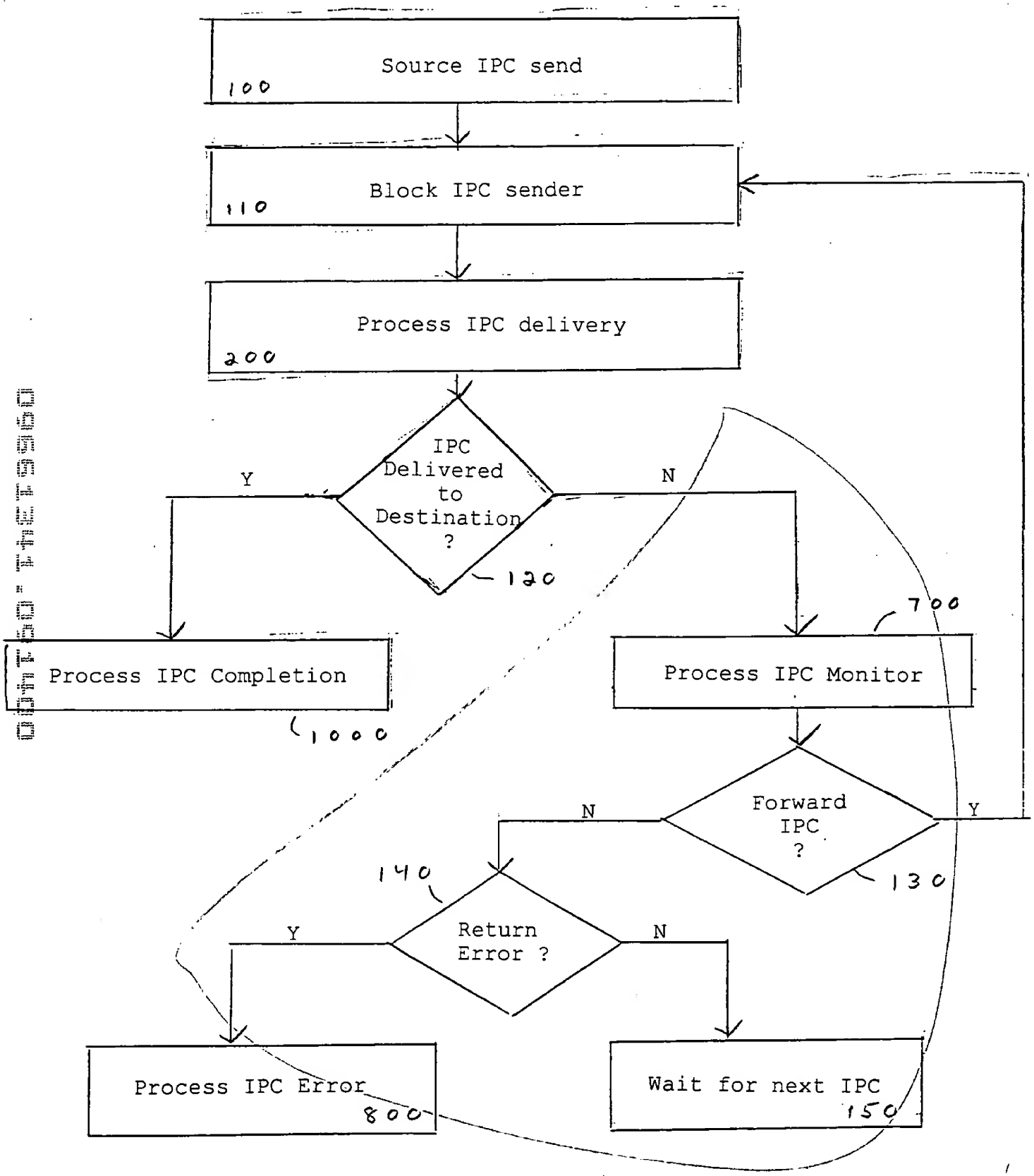

Fig. 1

Process IPC Delivery

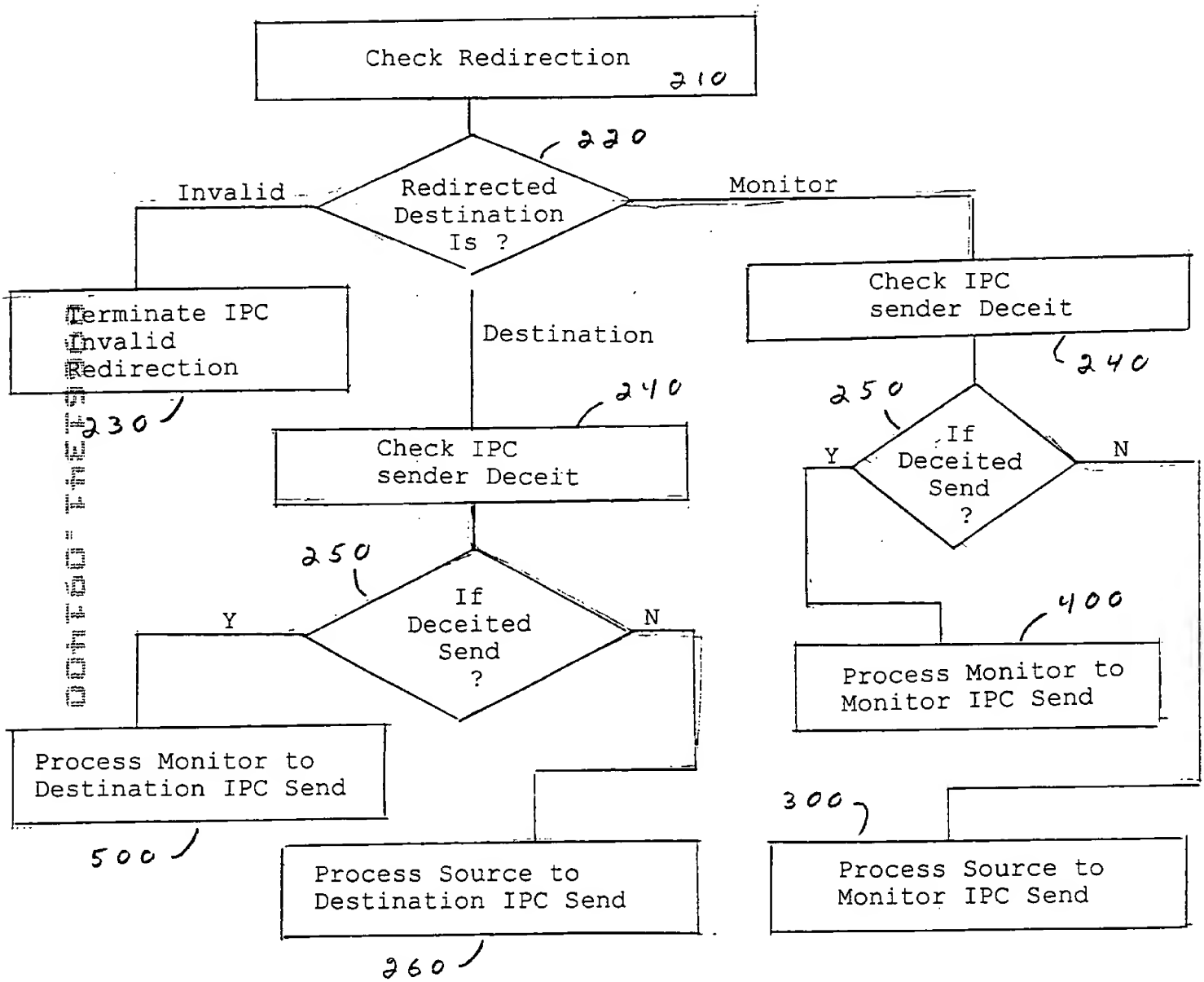

Fig. 2

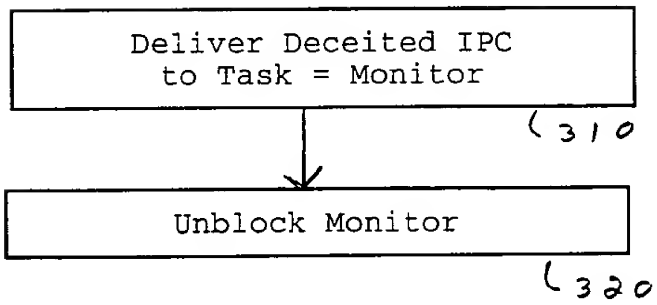

Fig. 3

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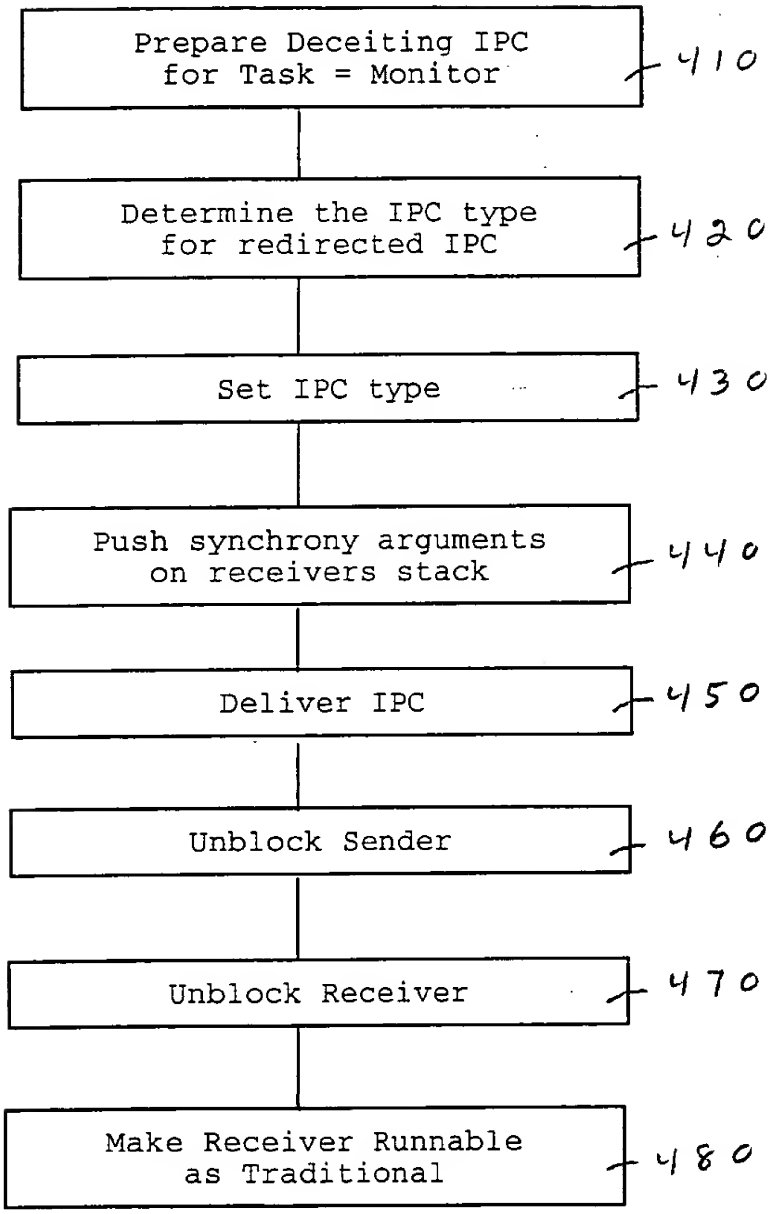
Prepare Deceiting IPC for Task = Monitor
410
Determine the IPC type for redirected IPC
420
Set IPC type
430
Push synchrony arguments on receivers stack
440
Deliver IPC
450
Unblock Sender
460
Unblock Receiver
470
Make Receiver Runnable as Traditional
480

Fig. 4

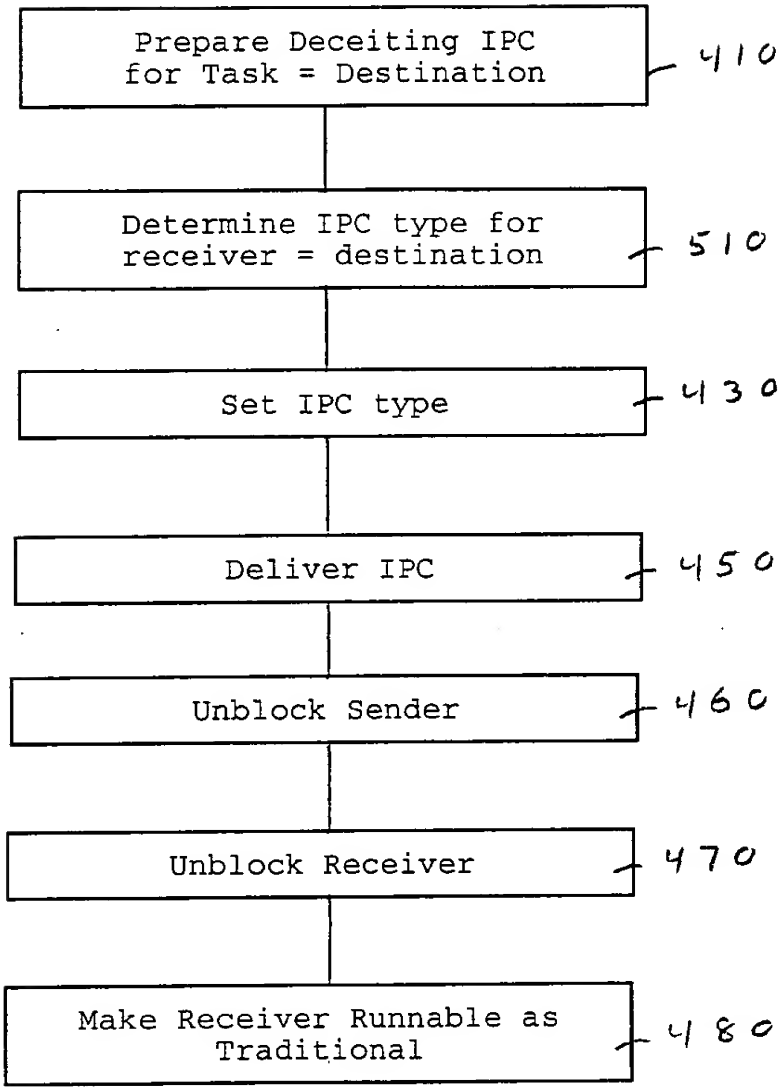
Prepare Deceiting IPC for Task = Destination
410
Determine IPC type for receiver = destination
510
Set IPC type
430
Deliver IPC
450
Unblock Sender
460
Unblock Receiver
470
Make Receiver Runnable as Traditional
480

Fig. 5

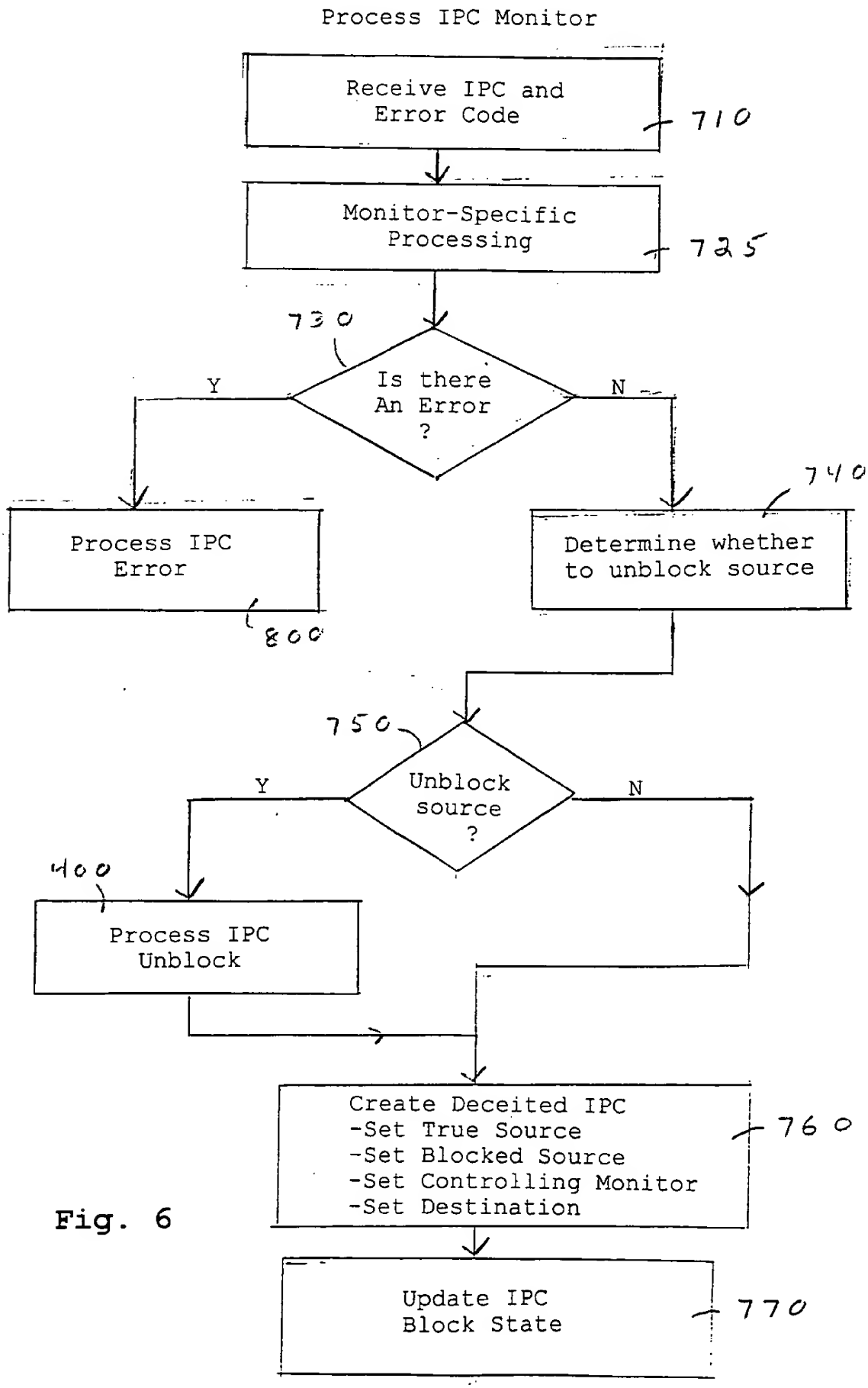

Fig. 6

DOCKET NO. YOR920000575US1

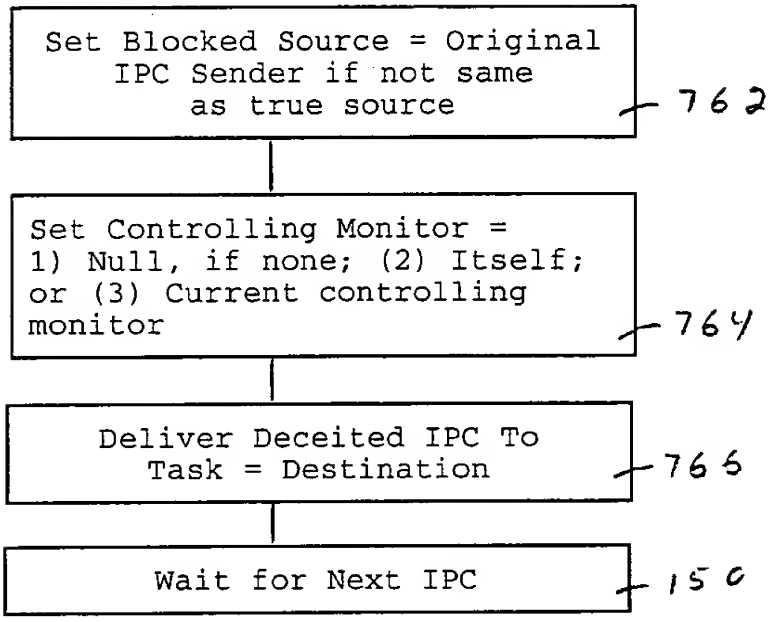

Fig. 7

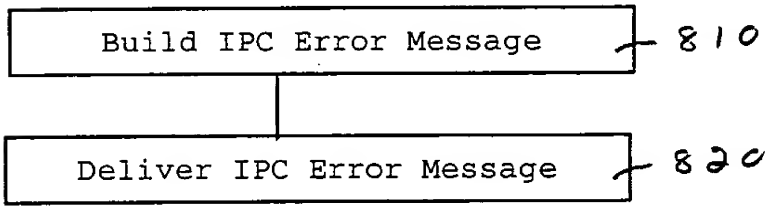

Fig. 8

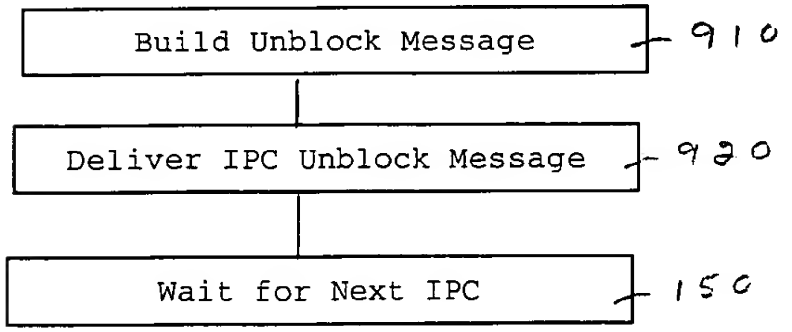

Fig. 9

Docket No. YOR920000575US1

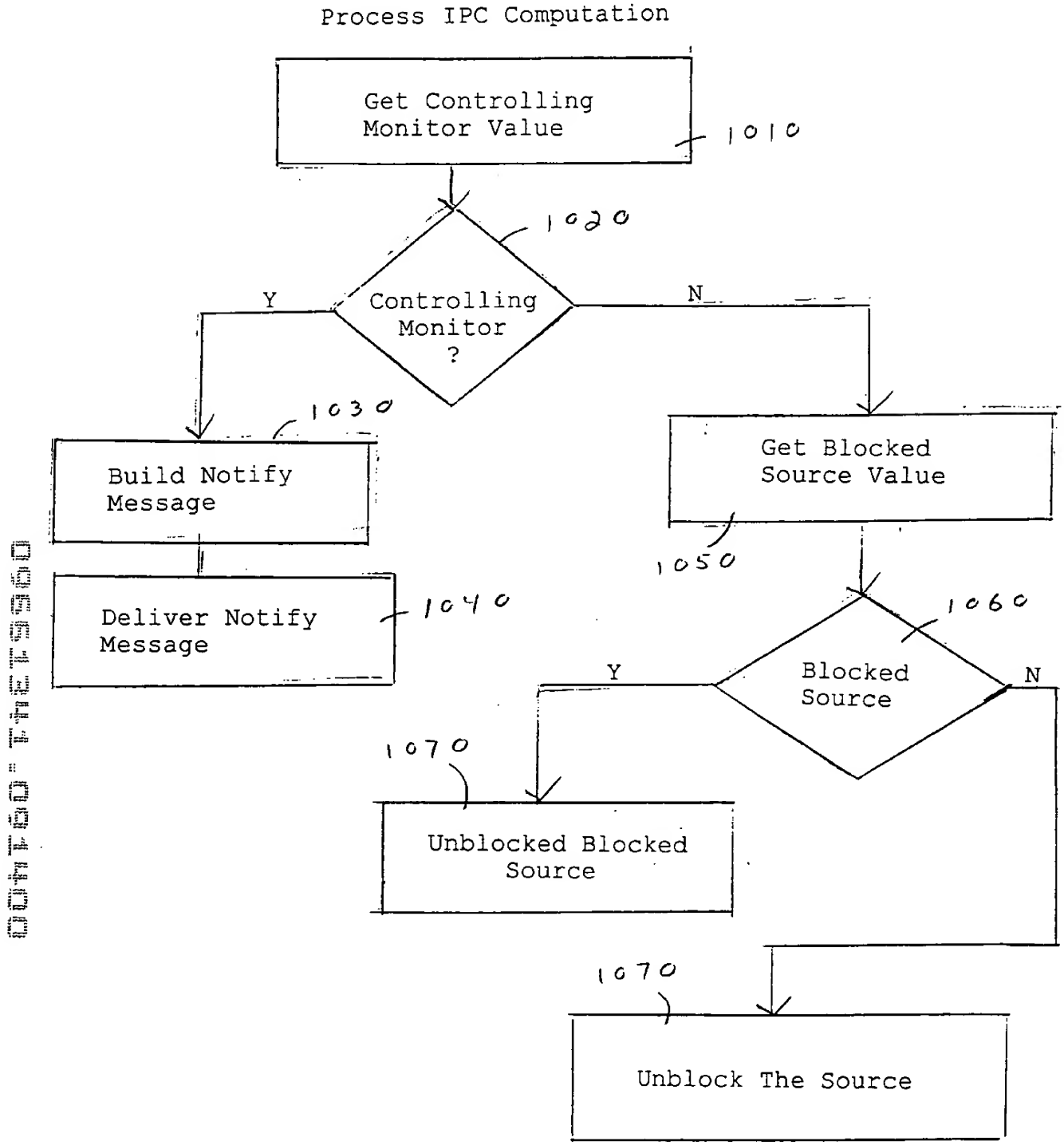
Process IPC Computation
Get Controlling Monitor Value
1010
1020
Controlling Monitor ?
Y
N
1030
Build Notify Message
Deliver Notify Message
1040
Get Blocked Source Value
1050
1060
Blocked Source
Y
N
1070
Unblocked Blocked Source
1070
Unblock The Source

Fig. 10

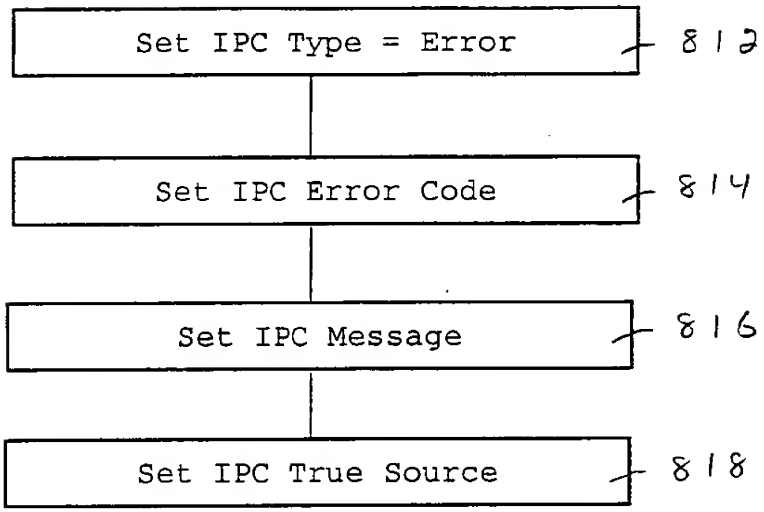

Fig. 11

Docket: YOR920000575US1

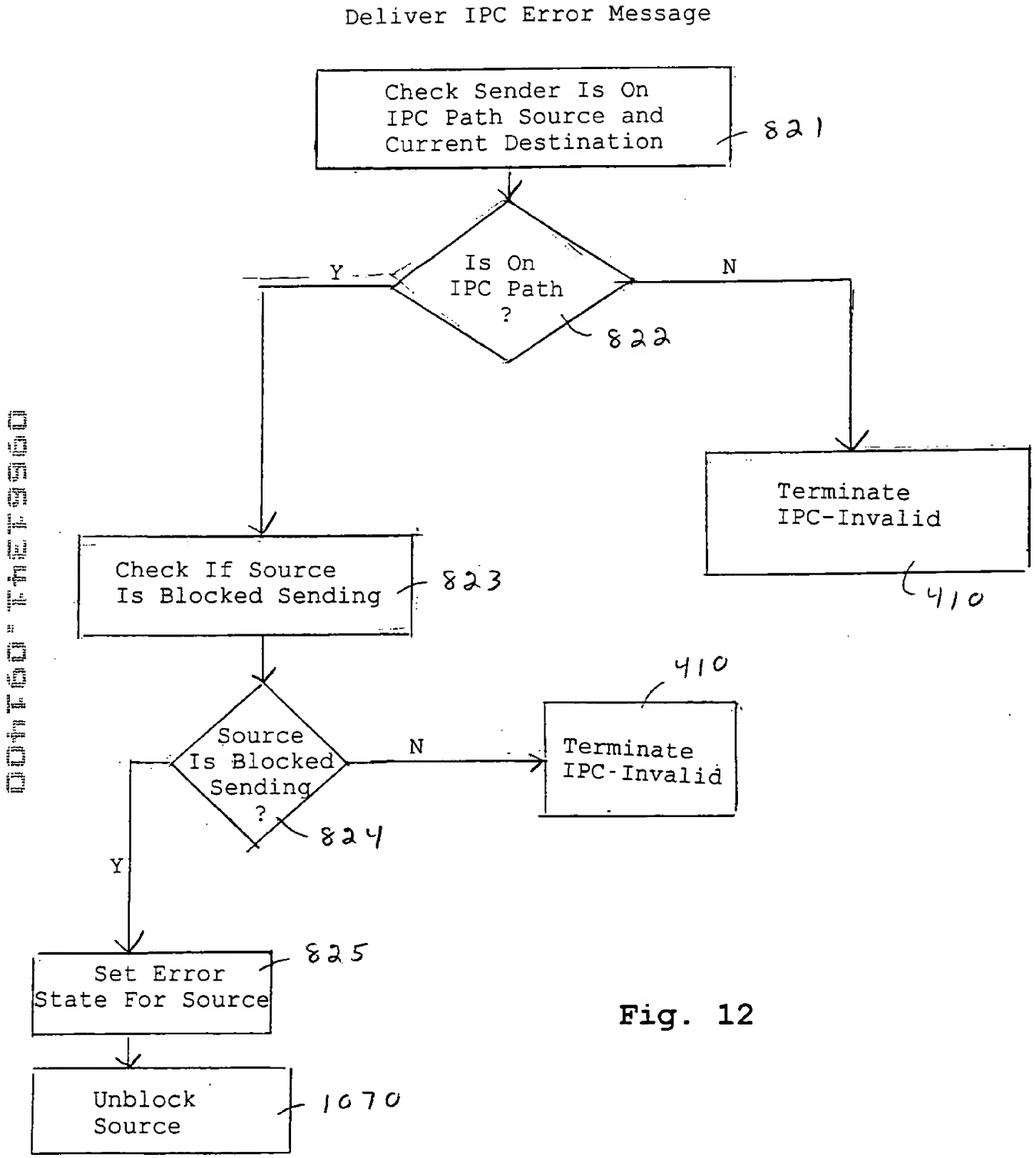
Deliver IPC Error Message
Check Sender Is On IPC Path Source and Current Destination
821
Is On IPC Path ?
822
Y
N
Terminate IPC-Invalid
410
Check If Source Is Blocked Sending
823
Source Is Blocked Sending ?
824
N
410
Terminate IPC-Invalid
Y
Set Error State For Source
825
Unblock Source
1070

Fig. 12

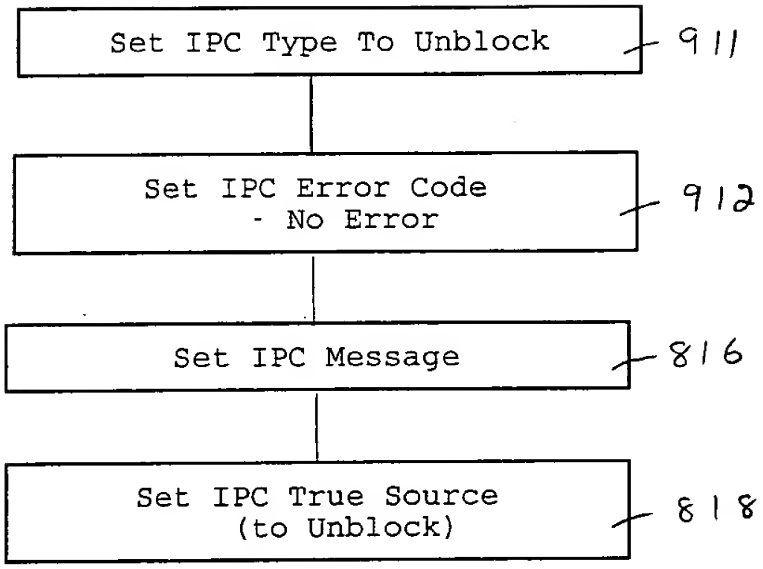

Fig. 13

Docket Entered

Deliver IPC Unblock Message

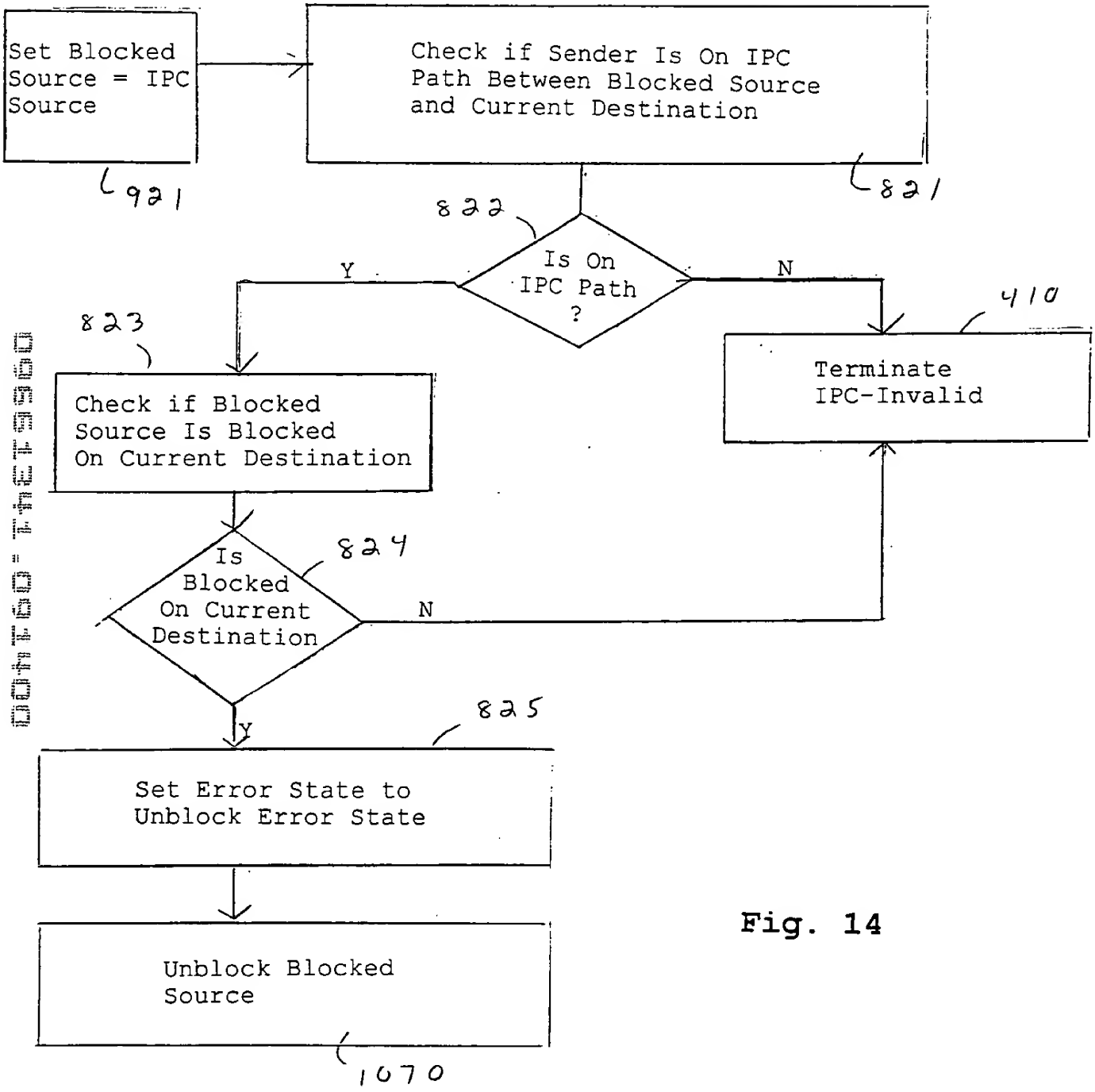

Fig. 14

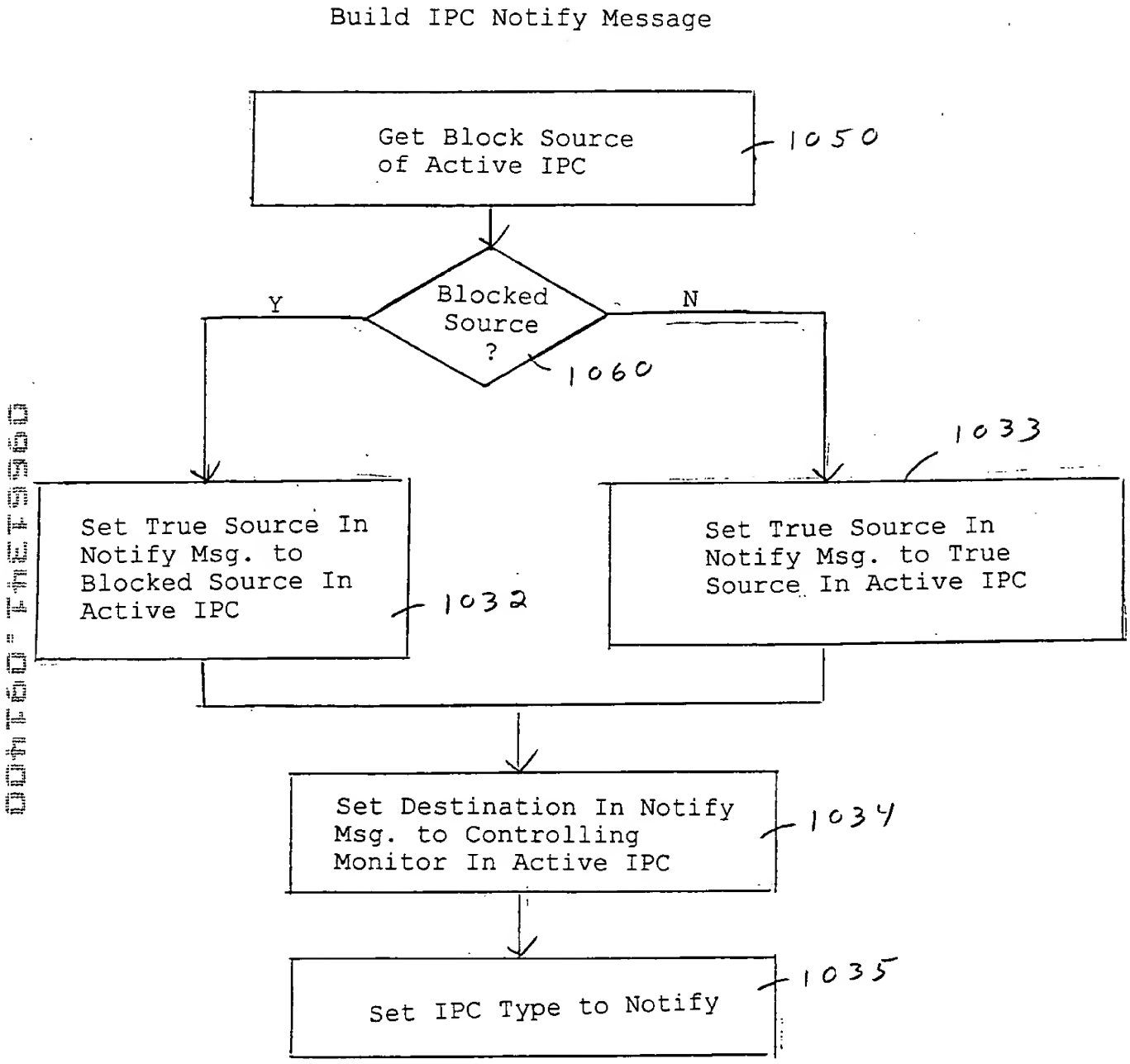
Build IPC Notify Message
Get Block Source of Active IPC
1050
Blocked Source ?
1060
Y
N
Set True Source In Notify Msg. to Blocked Source In Active IPC
1032
1033
Set True Source In Notify Msg. to True Source In Active IPC
Set Destination In Notify Msg. to Controlling Monitor In Active IPC
1034
Set IPC Type to Notify
1035

Fig. 15

Deliver Notify Message

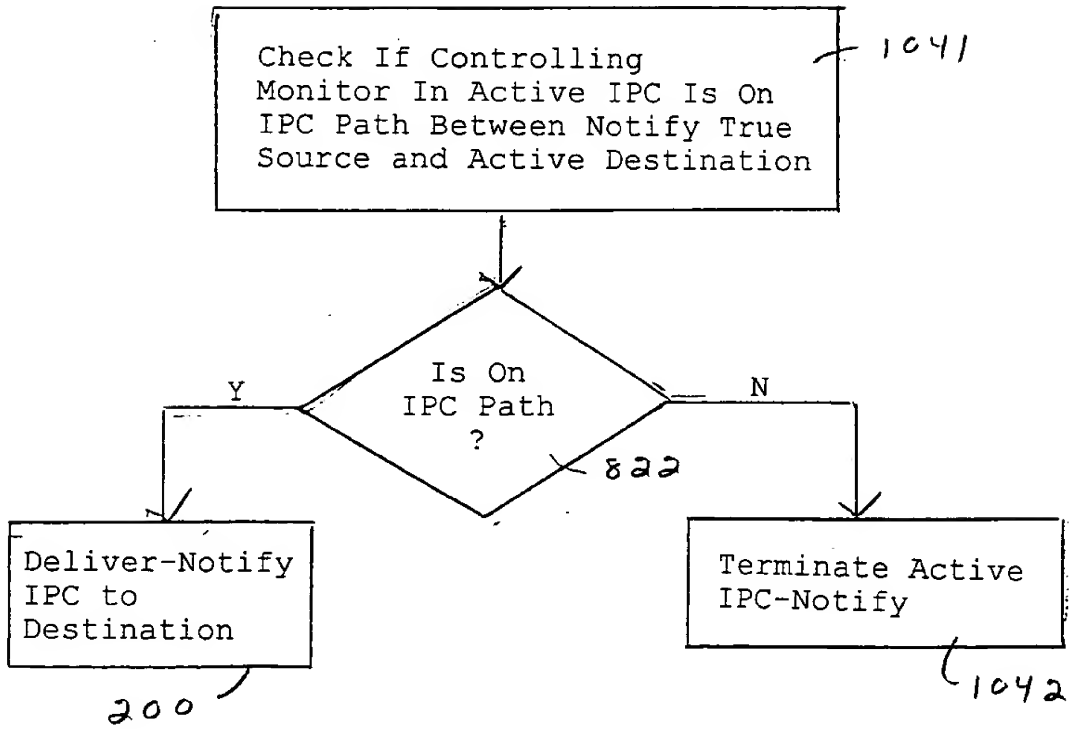

Fig. 16

Doc ID: US-5764896-A

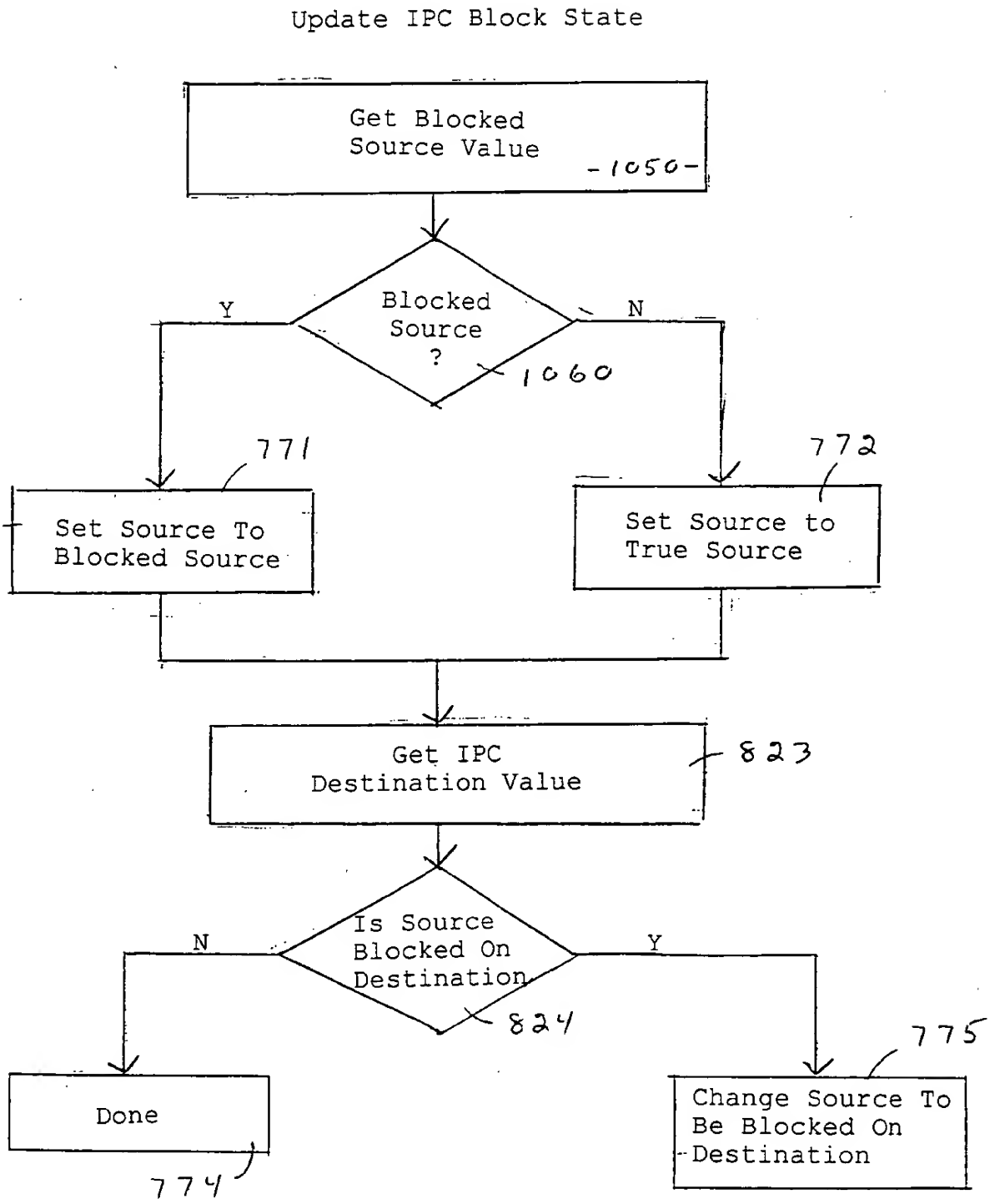
Update IPC Block State
Get Blocked Source Value
-1050-
Blocked Source ?
1060
Y
N
771
Set Source To Blocked Source
772
Set Source to True Source
Get IPC Destination Value
823
Is Source Blocked On Destination
824
N
Y
Done
774
775
Change Source To Be Blocked On Destination

Fig. 17